VOLUME 64 WHOLE NO. 308
NUMBER 2 1950

Psychological Monographs:
General and Applied

Combining the *Applied Psychology Monographs* and the *Archives of Psychology* with the *Psychological Monographs*

HERBERT S. CONRAD, *Editor*

The Value of an Oral Reading Test for Diagnosis of the Reading Difficulties of College Freshmen of Low Academic Performance

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Accepted for publication, July 16, 1949

Price $1.00

Published by

THE AMERICAN PSYCHOLOGICAL ASSOCIATION
1515 MASSACHUSETTS AVE., N.W., WASHINGTON 5, D.C.

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CHAPTER I

THE NATURE AND LIMITATIONS OF THIS STUDY

A. The Nature of the Study

The source of this investigation lies in the need in educational psychology for exactitude of concept formation. The need in the case of this present research arises from what seems to be a current trend—a trend illustrated by a recent text, which after presenting certain generalizations concerning the oral-silent reading relationship, states that "the oral reading examination is indispensable to a thorough exploration of a student's reading abilities" (8, p. 238). The research interest of such a statement lies in the fact that these writers do not offer experimental findings to establish their contention, nor is supporting evidence at the academic levels for which they write (high school and college) to be found in the literature. In fact, the only justification for the statement which this writer could discover is a conclusion by Swanson (who did not use such a test in his study) that an oral reading test "such as Gray's Oral Reading Paragraphs" should be useful at the college level (15, p. 59). A derived conclusion such as this latter would seem hardly justification for the twenty-seven pages which the text quoted devotes to an analysis of various oral reading errors and their implications for reading-diagnosis and for tutoring.

Such generalizations concerning the diagnostic value of oral reading examinations raise a problem of importance to educators. Since oral reading is an observable activity, and thus allows more extensive observation, direction, and measurement than do the more covert silent reading habits, the finding of a high degree of relationship between the two would lend logic to further examination of the assumption that difficulties in the oral medium might be paralleled by similar difficulties in the silent medium, and that improvement in one might result in improvement in the other. Experimental verification of conclusions such as that quoted in the opening paragraph, would provide workers in the field of reading difficulties with a useful instrument for reading diagnosis and for tutoring.

Outlined briefly below are those areas with which this present study will be concerned.

1. *Studies of the Frequency of Oral Errors*

Such studies seem to be based upon the assumption that the student who makes the most frequent errors when reading orally thereby indicates his generally low level of reading proficiency. Opposed to this notion, Marion Monroe (9) and Cassie Payne (11) several years ago asserted that both good and poor readers make all kinds of oral errors, seemingly indiscriminately, when level of reading proficiency is determined by some standard other than the action which is itself being observed—namely, the frequency of the making of oral errors. However, in spite of such objections, studies of error frequency have continued to appear with ever more detailed analyses of errors and of error positions. If oral errors do not show a substantial degree of correlation with other tests of language skills, the value of studies of oral-error frequency will be open to question.

2. *The Relationship between Reading Comprehension and Knowledge of Sentence Elements as Indicated by Oral Phrasing*

Notions of such a relationship run like a thread through the literature. For example, one finds Sangren stating some years ago that "at times the teacher will ask the child to read orally and will discover that he has no recognition of the sentence as a unit of thought . . ." (13, p. 100). Gray tells us that "in addition the examiner is often impressed with many other defects in oral reading . . . and lack of proper phrasing" (6, p. 323). So also we have Thorndike emphasizing the "weighing of each of many elements in a sentence" (16, p. 323). And recently, Vera Paul has stated that it is lack of proper phrasing which keeps many children from getting meaning from the sentence (10, p. 219). Such statements are of interest in view of the fact that this writer has been unable to discover any published research findings to support them.

3. *The Relationship between Oral Errors and Vocabulary*

This relationship has not yet been investigated at the college level. Because of the substantial correlations found between vocabulary and intelligence test scores (.58 in this study), the finding of a high correlation between oral reading errors and vocabulary, and between oral reading errors and intelligence test scores would suggest certain interesting possibilities.

B. Basic Limitations of the Study

A work of this nature has certain limitations which, while they are intrinsic to studies in this field, are sufficiently often ignored to be deserving of specific mention.

Of basic importance is the disagreement concerning the nature and exact definition of the process which is central to our purpose—the reading process. The particular viewpoint to which one adheres would seem to be influential in determining the type of reading test which one will construct, and in determining the interpretations which will be placed upon the results of that test. The manner in which one's viewpoints may affect test construction and interpretation is illustrated aptly by a statement of Courtis, who some years ago argued that McCall's reading tests were in reality tests of thinking and not of reading. "My thesis is that since there are many types of reading situations, and it is necessary to restrict the term reading to one of them, the term should be used to connote the simplest form of the activity, namely, observational reading. In other words, reading to me means the degree of control possessed by the child over the reading mechanism, or to the excellence of the mechanism itself" (2, p. 291). There is no indication in the literature that Courtis has changed his position since that time.

Holding to an opposed view is the definition of reading in a recent text: "To summarize, reading is a psychological process in which the reader obtains meaning from printed words. . . . But clear images and the recognition of words are not enough; he must determine their meaning in a particular context. Interpretation of meaning involves memory of previous experiences, reasoning, and the reader's purposes and attitudes toward the situation as a whole" (8, p. 45).

It may be gathered from the foregoing that the frame of reference within which an investigator in this area will operate is not a matter of common agreement, and hence, constitutes a basic limitation of such studies. It might be appropriate to add that practically every form of behavior in this study—intelligence, spelling, vocabulary, reading rate, and reading comprehension—is a matter of considerable controversy, and thus, exhibits similar limitations.

C. Summary

This investigation, then, is based upon these specific considerations:

1. There is evident a current tendency to generalize broadly concerning the values of oral reading tests for the diag-

nosis of silent reading difficulties.

2. The problem is created by the fact that there is little experimentation to justify such generalizations for the college level.

3. The goal of this present study is to furnish information in the light of which concepts of the diagnostic value of the oral reading test may be evaluated.

Chapter II

THE STUDY GROUP AND INSTRUMENTS OF INVESTIGATION

A. The Study Group

The material for this study has been gathered from the scores of the eighty students whose grades placed them in the lowest academic quarter of a class of 312 freshmen at American International College for the second semester ending in June, 1947. In all, 238 of these 312 were completely tested.

As may be noted from Table 1, range and variance in age and length of time between last school attendance and college entrance are considerable. Until clarification of the subject is available, the influence of these factors upon reading proficiency is largely conjectural.

To summarize other descriptive data, the group of eighty students upon whose performance this study is based consisted of 74 males and of six females. Of the men all but fourteen were veterans. Of the women two were veterans. Seventy-five of the eighty had been admitted to the college by certification, two had been admitted by entrance examination, and three had been admitted on the basis of the United States Armed Force Institute Examination.

Data on the language backgrounds of the sample are presented in Table 2. Since participation in the study was not voluntary on the students' part, and since the students as a group, in activities quite removed from this study, evidenced the emotionality indicative of feelings of personal insecurity, it was deemed inadvisable to inquire into data of such a nature as would allow the classification of the students into one of the schema of socio-economic status.

Of interest, also, is the extent of student oral reading, since this might possibly affect accomplishment on a test of oral reading. Of the 303 members of this freshman class, who returned completely filled questionnaires, 260 stated that they read orally *one hour a week or less*. From the forty-three who claimed to read orally from one to fifteen hours a week, inquiry elicited the information

TABLE 1

Age, Length of Time between Last School Attendance and College, and Intelligence

	N	Mean	S. D.	Range
Age (in Months)	80	275.95	59.67	215–420
Time between Last School Attendance and College Entrance (in Months)	80	34.64	26.25	3–147
American Council on Education Psychological Examination, 1946 Edition (Raw Scores)	80	95.39	22.83	53–163

TABLE 2

Languages Spoken in the Homes of Students
N = 80

Language	*N*
Armenian	1
English Only	41
French	5
Greek	1
Italian	14
Polish	10
Yiddish	8

that several were members of a radio work-shop, and that many of the others were engaged in various forms of community group work which necessitated considerable oral reading.

B. The Development of an Oral Instrument for Investigation

1. *The Necessity for a New Oral Reading Test*

For the purposes of a study of oral reading at the college freshman level, there are available only two oral reading tests—a sub-test to be found in Strang's *Examiner's Diagnostic Reading Record* (14) and a sub-test of the *Diagnostic Reading Tests,* prepared by a committee under the chairmanship of Triggs (18). Because of the grade range for which these tests were developed, and because of their limited range of material at the college level, neither of them was considered suitable for use in the present study. Determination of the diagnostic usefulness of a test of oral reading for college freshmen would seem to demand the construction of an oral reading instrument for that purpose.

2. *Construction of the Oral Reading Test*

Since reading disability may be specific to certain types of material, the content of the reading passages should be functional, i.e., should sample the fields of reading in which a college freshman engages in his academic work. For the Freshman Oral Reading Test[1] the fields of reading which were chosen, basing the choice upon the program of general studies for the freshman year at American International College, were psychology, history, the natural sciences, and English. The reading passages were selected from the following sources: from freshman texts which are no longer published because of text revisions, from the Sunday edition of the *New York Times,* and from sophomore texts.

Comprehension questions were devised for the reading passages, and these questions together with the selections were subjected to expert criticism and to revision. In its revised form the test was administered to a preliminary group of eighty students. An item analysis of the comprehension questions was based upon the performance of this preliminary group. Techniques used for the item analysis were those suggested by Davis (3, pp. 6-7), and the difficulty and discrimination indices for the comprehension questions retained for the experimental form of the test are to be found in Tables 3 and 4.

The test was then administered to the eighty members of the study group. Reliabilities between Forms A and B, obtained from this administration, were: for time of oral reading, .90; and for oral comprehension, .67.

Based upon experience with the preliminary group, the following oral reading errors were recorded on the experimental administration of the test:

a. Mispronunciations—in cases in which the mispronunciation was not clearly owing to substitutions, omissions, or insertions within the word.

b. Punctuation Errors—in cases in which change of voice did not indicate heed for the punctuation mark. It was felt that punctuation errors would constitute a useable device for approximating an objective measure of oral phrasing and rhythm.

c. Omissions—in cases of omission both of words and of word parts.

[1] The oral instrument devised for this study will be referred to hereafter by this title.

TABLE 3

PERCENTAGE OF SUCCESSES IN THE UPPER 27% AND LOWEST 27% OF THE PRELIMINARY GROUP*
$N = 80$

Form A							
I-1	I-2	I-3	I-4	II-1	II-2	II-3	III-1
70	34	78	78	68	50	49	55
8	5	41	44	21	11	6	15
III-2	III-3	IV-1	IV-2	IV-3	V-1	V-2	VI-1
64	97	67	61	64	83	83	73
5	58	17	28	18	28	48	25
VI-2	VII-1	VII-2	VII-3	VII-4	VIII-1	VIII-2	VIII-3
54	51	31	43	83	83	97	43
7	20	1	7	31	35	68	2

Form B								
I-1	I-2	I-3	II-1	II-2	II-3	III-1	III-2	III-3
52	68	93	68	70	77	60	86	36
20	30	31	25	37	34	16	55	1
III-4	III-5	IV-1	IV-2	V-1	V-2	V-3	VI-1	VI-2
46	74	86	60	48	84	80	38	72
16	43	22	22	11	54	11	12	28
VI-3	VII-1	VII-2	VIII-1	VIII-2	VIII-3	VIII-4	VIII-5	
87	67	86	52	38	76	76	52	
38	4	43	20	12	25	34	17	

* Of each pair of numbers the upper gives the percentage of successes for the upper 27% of the group and the lower the percentage for the lowest 27%.

d. Substitutions—in cases of substitutions of both words and of word parts.

e. Repetitions—including any number of repetitions of a word. Even a single repetition may be indicative of oral difficulties.

f. Insertions—in cases of insertions of both words and word parts.

g. Hesitations—A liberal allowance of three seconds was placed upon the allowable limits of a hesitation in order to allow for variations in breath control, attention span, and so on.

h. Word Stress—While it is by no means clear that this error would be of extended significance in a consideration of reading disability, since its probable origin may lie in the world's being more a part of the reader's reading vocabulary, than it is of his speaking vocabulary, the practice occurred a sufficient number of times to justify its inclusion as an error to be scored on the experimental form of the test.

As a device for choosing the oral errors which were to be used in the research, scatter diagrams of oral error performance were plotted. The essential material from these scattergrams is presented in Table 5.

It was decided arbitrarily that if over fifteen percent of the sample obtained a zero error score on any specific error, this error would not be suitable for inclusion in the study. As may be noted from Table 5, Mispronunciations, Substitutions, and Omissions warrant inclusion. Word Stress errors, Hesitations, and Repetitions do not constitute errors useful for our purposes. Insertions and Punctuation Errors are of questionable value, but will be included.

TABLE 4

DAVIS'S DISCRIMINATION AND DIFFICULTY INDICES FOR THE COMPREHENSION QUESTIONS OF THE FRESHMAN ORAL READING TEST*
$N = 80$

Form A							
I-1	I-2	I-3	I-4	II-1	II-2	II-3	III-1
47	30	24	23	31	30	38	30
44	32	55	56	47	40	38	42
III-2	III-3	IV-1	IV-2	IV-3	V-1	V-2	VI-1
49	42	35	21	31	38	24	33
42	66	46	47	45	53	58	49
VI-2	VII-1	VII-2	VII-3	VII-4	VIII-1	VIII-2	VIII-3
39	22	45	36	35	33	35	45
40	42	36	36	54	54	69	34

Form B								
I-1	I-2	I-3	II-1	II-2	II-3	III-1	III-2	III-3
22	24	48	28	21	28	31	24	48
42	49	56	48	52	53	44	61	31
III-4	III-5	IV-1	IV-2	V-1	V-2	V-3	VI-1	VI-1
22	21	45	25	30	22	50	21	22
40	54	52	43	38	60	48	36	53
VI-3	VII-1	VII-2	VIII-1	VIII-2	VIII-3	VIII-4	VIII-5	
35	53	30	22	21	34	28	25	
56	42	58	42	36	51	33	42	

* Of each pair of numbers the discrimination index is the upper, the difficulty index is the lower.

C. TESTS OF SILENT READING SKILLS

The guiding considerations in the choice of tests of silent reading and of intelligence with which to correlate the Freshman Oral Reading Test were: (1) that they should be of college level, (2) that there should be information in the literature as to their reliabilities and usefulness, and (3) that their administration and scoring should not be so complex as to render their use impracticable under the conditions in which this investigation was conducted.

In the light of these considerations

TABLE 5

ERROR PERFORMANCE OF THE SAMPLE ON FORMS A AND B OF THE ORAL READING TEST
$N = 80$

Type of Oral Error	Mean Forms A and B	S. D. Forms A and B	Mdn. Forms A and B	r between Forms A and B
Word Stress	.8	1.1	.9	.11
Hesitation	1.3	1.7	.9	.30
Punctuation Errors	3.5	4.2	2.2	.77
Insertions	1.9	1.5	2.5	.29
Substitutions	3.0	2.6	3.0	.59
Omissions	3.8	2.8	3.7	.35
Mispronunciations	5.2	4.6	4.5	.86
Repetitions	3.6	4.5	2.4	.70

the following examinations were selected.

1. *Intelligence*—American Council on Education Psychological Examination for College Freshmen, 1946 Edition.

2. *Vocabulary*—Cooperative English Test C 2: Reading Comprehension (Higher Level), Form Q, Part 1.

3. *Rate and Level of Comprehension*—Cooperative English Test C 2: Reading Comprehension (Higher Level), Form Q, Part II.

4. *Speed of Reading*—Minnesota Speed of Reading Test for College Students, Form B.

5. *Sentence Structure*—The Purdue Placement Test in English for High Schools and Colleges, Form A, Part IV.

6. *Grammatical Classification*—The Purdue Placement Test in English for High Schools and Colleges, Form A, Part II.

7. *Recognition of Grammatical Errors*—The Purdue Placement Test in English for High Schools and Colleges, Part III.

D. Intercorrelations of the Silent Reading and Intelligence Tests

In order to determine whether or not these tests of language skills and of intelligence could be presumed to measure relatively independent abilities, performance on them by the students for whom complete results were obtained was intercorrelated. Table 6 presents the results of such intercorrelation. All correlations are of raw scores.

The list preceding Table 6 identifies the numbers used for coding the language tests included. The means and the standard deviations presented at the foot of each column are these measures for the scores obtained on that test the code number for which stands at the head of the column.

TABLE 6

INTERCORRELATIONS OF THE CRITERION TESTS
$N = 238$

1. Cooperative English Test C 2, Vocabulary Score
2. Cooperative English Test C 2, Speed of Comprehension
3. Cooperative English Test C 2, Level of Comprehension Score
4. Cooperative English Test C 2, Total Score
5. Minnesota Speed of Reading, Form B
6. Purdue Placement, Grammatical Classification Score
7. Purdue Placement, Recognition of Grammatical Errors Score
8. Purdue Placement, Sentence Structure Score
9. A.C.P.E., "Q" Score
10. A.C.P.E., "L" Score
11. A.C.P.E., Total Score

	1	2	3	4	5	6	7	8	9	10	11
1		.844	.596	.840	.432	.385	.266	.274	.239	.692	.580
2			.818	.985	.542	.212	.315	.383	.396	.712	.675
3				.852	.455	.355	.240	.328	.394	.583	.629
4					.499	.393	.296	.353	.403	.678	.661
5						.143	.251	.264	.339	.472	.490
6							.494	.366	.199	.811	.386
7								.238	.135	.344	.321
8									.129	.300	.354
9										.524	.817
10											.874
11											
M.	20.9	17.4	11.6	49.9	14.1	11.4	19.5	16.7	41.4	68.0	108.9
S.D.	9.9	10.6	7.4	25.5	5.2	5.1	9.2	4.8	11.3	8.5	23.1

Chapter III

PRESENTATION OF THE FINDINGS

A. Guiding Considerations

The critical ratio is used as a test of the significance of the *r*'s presented in this section. The convention which has been followed is that ratios between 1.96 and 2.58 may be regarded as being significant, and that those ratios which are larger than 2.58 are to be regarded as being very significant. Kelley's "one-third sigma rule" has been followed in reporting the findings of the study (7, p. 223).

B. A Study of the Oral Error Scores

The following Tables, 7 to 14, present the results obtained from correlating the oral errors—Mispronunciations, Substitutions, Omissions, Insertions, and Punctuation Errors, as well as scores of oral comprehension, total oral errors, and time of oral reading—with the silent reading measures used in the investigation. These oral test scores are based upon the use of both Forms A and B of the Freshman Oral Reading Test considered as if they together constituted but one examination.

1. *Omissions and Punctuation Errors*

As is to be noted from an inspection of Tables 7 and 8, neither the omission of words or word parts nor the extent of disregard for punctuation marks during oral reading are related significantly to any of the silent tests of language skills used in this study. This is a finding of interest since the Punctuation Error score was intended as an objective measure of phrasing during oral reading.

TABLE 7

Correlations of Omissions Errors with Other Test Results

Test	*r**
Cooperative Speed of Comprehension	.09
Cooperative Level of Comprehension	.16
Cooperative Vocabulary	.17
Cooperative Total	.14
Minnesota Speed of Reading	.11
Purdue Sentence Structure	.08
Purdue Recog. Gram. Errors	.15
Purdue Gram. Class.	.10
American Council Psychological	.07
Total Oral Comprehension	.03

* None of the *r*'s are significant at the 5% level.

TABLE 8

Correlations of Punctuation Errors with Other Test Results

Test	*r**
Cooperative Speed of Comprehension	.09
Cooperative Level of Comprehension	.04
Cooperative Vocabulary	.02
Cooperative Total	.03
Minnesota Speed of Reading	.11
Purdue Sentence Structure	.11
Purdue Recog. Gram. Errors	.03
Purdue Gram. Class.	−.04
American Council Psychological	.07
Total Oral Comprehension	−.15

* None of the *r*'s are significant at the 5% level.

2. *Insertions*

The insertion of added sounds and words during oral reading correlates significantly with the results of but one test, the Cooperative Reading Vocabulary Test (Table 9).

3. *Substitutions*

The relationships obtained between this type of error—the substitution of words or word parts during oral reading—and the silent tests were of interest to this writer in view of the importance given to this error in several of the studies of the value of oral reading. However, as is evident from Table 10, Substitutions are correlated significantly with none of the criterion scores except with those of the Purdue tests of Gram-

TABLE 9

CORRELATIONS OF INSERTIONS ERRORS WITH OTHER TEST RESULTS

Test	r	σ_r
Cooperative Speed of Comprehension	.11	.11
Cooperative Level of Comprehension	.19	.11
Cooperative Vocabulary	.27	.10*
Cooperative Total	.10	.11
Minnesota Speed of Reading	.18	.11
Purdue Sentence Structure	.12	.11
Purdue Recog. Gram. Errors	.13	.11
Purdue Gram. Class.	.17	.11
American Council Psychological	.06	.11
Total Oral Comprehension	.05	.11

* $P<.01$.

TABLE 10

CORRELATIONS OF SUBSTITUTIONS ERRORS WITH OTHER TEST RESULTS

Test	r	σ_r
Cooperative Speed of Comprehension	.01	.11
Cooperative Level of Comprehension	.15	.11
Cooperative Vocabulary	.10	.11
Cooperative Total	.08	.11
Minnesota Speed of Reading	.12	.11
Purdue Sentence Structure	−.06	.11
Purdue Recog. Gram. Errors	.21	.11
Purdue Gram. Class.	.22	.11*
American Council Psychological	.05	.11
Total Oral Comprehension	−.07	.11

* $.05>P>.01$.

matical Classification and Recognition of Grammatical Errors.

4. *Mispronunciations*

Of the errors studied in this investigation, Mispronunciations (Table 11), consisting of gross errors in the pronunciation of words, are correlated with more of the tests of silent reading skills than are any of the other oral error scores used in the study. Such errors show a significant correlation with the tests of the level of silent reading comprehension, vocabulary, and the psychological examination. To be noted is the fact that there is a significant difference in the size of the correlation between this error and vocabulary compared to the size of the correlation between Mispronunciations and level of silent comprehension (12, p. 185). With regard to the latter the correlations between Mispronunciations and level of silent comprehension and mispronunciations and oral comprehension show no significant difference.[1]

TABLE 11

CORRELATIONS OF MISPRONUNCIATIONS ERRORS WITH OTHER TEST RESULTS

Test	r	σ_r
Cooperative Speed of Comprehension	.21	.11
Cooperative Level of Comprehension	.29	.10†
Cooperative Vocabulary	.42	.09†
Cooperative Total	.38	.10†
Minnesota Speed of Reading	.12	.11
Purdue Sentence Structure	.03	.11
Purdue Recog. Gram. Errors	.10	.11
Purdue Gram. Class.	.18	.11
American Council Psychological	.29	.10†
Total Oral Comprehension	.25	.11*

* $.05>P>.01$.
† $P<.01$.

In view of the size of the correlation between Mispronunciations and the psychological examination, the problem of the possible role played by mental ability in the relationship observed between Mispronunciations and the other variables is relevant. Holding intelligence constant (12, p. 243), significant partial r's are obtained between Mispronunciations and vocabulary, and between Mispronunciations and oral comprehension.[2]

5. *Oral Comprehension*

Oral comprehension, as measured by

[1] $r_{13}-r_{13}=.04$; $\sigma_{r_{12}-r_{13}}=.12$

[2] Mispronunciations and Level of Silent Comprehension:
$r_{01.2}=.14$; $\sigma_{r_{01.2}}=.11$
Mispronunciations and Vocabulary:
$r_{01.2}=.22$; $\sigma_{r_{01.2}}=.10$
Mispronunciations and Oral Comprehension:
$r_{01.2}=.18$; $\sigma_{r_{01.2}}=.08$

TABLE 12

CORRELATIONS OF ORAL COMPREHENSION WITH OTHER TEST RESULTS

Test	r	σ_r
Cooperative Speed of Comprehension	.42	.09†
Cooperative Level of Comprehension	.39	.10†
Cooperative Vocabulary	.38	.10†
Cooperative Total	.45	.09†
Minnesota Speed of Reading	.08	.11
Purdue Sentence Structure	.17	.11
Purdue Recog. Gram. Errors	.18	.11
Purdue Gram. Class.	.13	.11
American Council Psychological	.25	.11*

* $.05 > P > .01$.
† $P < .01$.

the correctly answered check items of the Freshman Oral Reading Test, is related significantly with the three part scores and the total score of the Cooperative English Reading Comprehension Test and with the psychological examination (Table 12). With mental ability held constant, the resulting partial r's of these variables are significant.[3]

6. *Time of Oral Reading*

The results of the correlation of this oral score with the other measures used in the study are presented in Table 13. Of interest is the observation that there is not a significant difference between the correlations of Time of Oral Reading and time of silent reading as measured, on the one hand, by the Cooperative Speed of Comprehension score and, on the other hand, by the Minnesota Speed of Reading results.[4]

[3] Oral Comprehension and Speed of Silent Comprehension:

$$r_{01.2} = .35;\ \sigma r_{01.2} = .10$$

Oral Comprehension and Level of Silent Comprehension:

$$r_{01.2} = .31;\ \sigma r_{01.2} = .10$$

Oral Comprehension and Vocabulary:

$$r_{01.2} = .30;\ \sigma r_{01.2} = .10$$

Oral Comprehension and Cooperative Total Score:

$$r_{01.2} = .40;\ \sigma r_{01.2} = .10$$

[4] $r_{12} - r_{13} = .05;\ \sigma r_{12} - r_{13} = .10$

TABLE 13

CORRELATIONS OF TOTAL ORAL TIME OF READING WITH OTHER TEST RESULTS

Test	r	σ_r
Cooperative Speed of Comprehension	.38	.10†
Cooperative Level of Comprehension	.19	.11
Cooperative Vocabulary	.25	.11*
Cooperative Total	.31	.10†
Minnesota Speed of Reading	.33	.10†
Purdue Sentence Structure	.03	.11
Purdue Recog. Gram. Errors	.07	.11
Purdue Gram. Class.	.06	.11
American Council Psychological	.10	.11
Oral Comprehension	.00	.00

* $.05 > P > .01$.
† $P < .01$.

7. *Total Oral Errors*

As with Substitutions so with Total Oral Errors we have a score which is of interest in view of the fact that its relationships have constituted one of the major findings of several related studies. For example, Gilmore, who used an oral test of the same general type as that of this investigation, with a group consisting of practically all of the students in the first eight grades of one school system, found a mean r of .67 between total errors and silent reading comprehension

TABLE 14

CORRELATIONS OF TOTAL ORAL ERRORS WITH OTHER TEST RESULTS

Test	r	σ_r
Cooperative Speed of Comprehension	.14	.11
Cooperative Level of Comprehension	.27	.11*
Cooperative Vocabulary	.34	.10†
Cooperative Total	.29	.10†
Minnesota Speed of Reading	.18	.11
Purdue Sentence Structure	.08	.11
Purdue Recog. of Gram. Errors	.23	.11*
Purdue Gram. Class.	.15	.11
American Council Psychological	.20	.11
Total Oral Comprehension	.19	.11
Total Oral Time	.38	.10†

* $.05 > P > .01$.
† $P < .01$.

for the eight grades (5, p. 77). Swanson, who worked with two groups of college freshmen, one of poor and one of good readers, and who recorded their oral reading of three paragraphs, found an r of .44 between total oral errors and silent reading comprehension (15, p. 52). In contrast, in this present study, which is based upon the use of an oral reading test with eighty college freshmen of low academic achievement, the correlations between Total Oral Errors and both oral comprehension and the psychological examination are not significant at the 5% level of confidence, although they are almost of a size to be acceptable, .20 and .19. Nor is this error score correlated significantly with speed of silent comprehension, nor with the tests of sentence structure, except for the Purdue test of Recognition of Grammatical Errors. Total Oral Errors are related equally with level of silent comprehension and with vocabulary.[5] This score is significantly correlated, as well, with time of oral reading. As may be noted from Table 14 the significant correlations are: with level of comprehension, .27; with vocabulary, .34; with the Cooperative total score, .29; with recognition of grammatical errors, .23; and with time of oral reading, .38.

The size of these correlations when compared to those obtained by Gilmore (Table 15) leads to a consideration of a probable relationship between Total Oral Error Scores and grade level.

According to the tendency evidenced by Gilmore's findings (Table 15), one might well expect to find a correlation between Total Oral Errors and silent reading comprehension which would be lower at the college freshman level than the r of .56 found by Gilmore at the eighth grade. That Gilmore may have suspected the existence of such a trend is suggested by his comparison of his findings with the r of .44 obtained by Swanson between the same variables, and his conclusion that oral reading habits are more closely related to silent reading comprehension at the elementary than at the college level (5, p. 154).

Regressing Gilmore's correlations upon their grade levels, and weighting the coefficients in order to provide for differences in grade size (7, p. 352), yields a regression coefficient for correlation coefficient regressed on grade of $-.0431$. $F_{1(N-2)}$ equals 8.3014 (7, p. 358), t equals 2.88 (7, p. 357), and thus, we have a basis for rejecting the hypothesis that the differences in size to be observed among the correlations obtained by Gilmore are ascribable to chance deviations from a true correlation of zero between coefficient of correlation and grade. A suggested corollary would seem to be the decreasing value of a test of oral reading as a source of diagnostic clues concerning the nature of silent reading comprehension, as grade level advances.

TABLE 15

CORRELATIONS AT GRADES II THROUGH VIII BETWEEN ORAL READING SCORES AND COMPREHENSION SCORES ON THE STANFORD TEST (5, p. 110)*

Grade	Correlation between Oral Reading Errors and Comprehension Scores on the Stanford Test (Part I)
II	918
III	631
IV	693
V	693
VI	659
VII	572
VIII	561

* $N=138$ for Grades II and III, $N=184$ for Grades IV, V, and VI, and $N=138$ for Grades VII and VIII.

[5] $r_{12} - r_{13} = .07$; $\sigma r_{12} - r_{13} = .06$

Chapter IV

EVALUATION OF FINDINGS AND SUMMARY

A. Evidence of the Diagnostic Value of Specific Types of Reading Errors

Of the oral errors used in this study Omissions and Punctuation Errors are related to none of the silent language tests. Insertions are correlated .27 with vocabulary. Substitutions errors are related with but two of the silent tests—.22 with the Purdue Test of Grammatical Classification, and .22 with the Purdue Recognition of Grammatical Errors. The Mispronunciations error, considered from the viewpoint of its diagnostic usefulness, as determined by the number of tests with which it is correlated, offers the most promise. Its correlation with oral comprehension is .25, with silent comprehension .29, and with vocabulary is .42.

These figures would seem to suggest that gross mispronunciations during oral reading are related to some extent with the vocabulary level of the reader. However, it is difficult to conceive of a manner in which these oral errors might reveal information about a student's vocabulary difficulties which could not be more easily and directly obtained from a vocabulary test itself.

In general, it may be said that in view of the possible number of significant correlations which might have been obtained between specific types of oral error and tests of language skills, the number actually obtained is extremely small. This finding, when taken in conjunction with Gilmore's discovery at the elementary level that of the seven types of oral errors which he studied, only two —Substitutions and Words Pronounced by the Examiner—are significantly related to silent reading comprehension (5, pp. 145-6), would suggest that specific types of oral error are of but indifferent value for the furnishing of clues in the diagnosis of reading difficulties, either oral or silent. This would further suggest that such analyses of specific oral errors and their diagnostic significance as those of McCullough, Strang, and Traxler (8, pp. 246-273) have little sound basis.

B. The Relationship of Oral Phrasing and Reading Comprehension

The Punctuation error, consisting of the student's failure to change the voice appropriately, was intended as an objective measure of the student's oral phrasing. In lieu of some such measure it would seem that estimates of the subject's skill in oral phrasing would tend to be somewhat subjective. However, insofar as Punctuation Errors served this purpose, no evidence was furnished by this study to indicate that phrasing during oral reading is related to either silent or oral comprehension. One would not wish to push the suggested conclusion overly far in view of the suspected inadequacy of the Freshman Oral Reading Test as a measure of this error. However, the logic of such a conclusion would be supported by the not infrequent observation of students who, to all appearances, read quite well orally with little or no comprehension of the material read. (In this connection we might cite the correlations of .27 between Total Oral Errors and level of silent reading comprehension, and .19

between Total Oral Errors and Oral Comprehension.)

C. The Relationship of Mental Ability to the Oral and Silent Variables

The influence of mental ability upon the relationships between the oral and silent scores has been determined by holding mental ability constant and testing the significance of the consequent partial *r*'s. In only one case, that of the correlation between Mispronunciations and level of silent reading comprehension, was the resulting partial *r* non-significant. This would suggest that although mental ability is a factor in the oral-silent reading relationship, this relationship may be explained in terms other than those of the influence of a factor of mental ability common to the two variables.

D. The Relationship of Oral Reading to Mastery of Sentence Elements

The two instances of relationship between oral errors and tests of mastery of sentence structure have been mentioned previously. These are the correlations of .22 between Substitutions and grammatical classification, and of .22 between Substitutions and recognition of grammatical errors. These *r*'s would seem to indicate an extremely slight tendency among freshmen of low academic achievement who are uncertain about the structural components of an English sentence to betray that uncertainty by the making of substitutions in their oral reading.

Of seemingly greater importance is the failure in this study to find a significant correlation between tests of mastery of sentence elements and oral comprehension. If this relationship were to be found, one implication might be the indicated value of instruction in the elements of sentence structure as a part of a program of instruction in reading. Our findings would not seem to serve to justify this suggestion.

E. The Relationship of Oral Reading with Vocabulary

The correlation between Mispronunciations and vocabulary is .42; between Time of Oral Reading and vocabulary it is .34. Between Oral Comprehension and vocabulary the *r* is .38, which is not significantly different from the *r* of the same oral variable with level of silent reading comprehension. This would suggest that oral reading comprehension is related about equally both with silent reading comprehension and with vocabulary.

F. The Relationship of Oral Reading Comprehension to Silent Reading Comprehension

Oral reading comprehension is, of the oral variables studied, related most substantially to silent reading comprehension. The *r* between Oral Reading Comprehension and the total score of the Cooperative English Reading Comprehension Test C 2 is .45. (This latter score is a composite score representing performance on tests of speed of silent reading comprehension, level of silent reading comprehension and vocabulary.) In view of the possible effects of differing methods of testing reading comprehension upon the *r*'s obtained between two tests, which have been pointed out by Eurich (4, pp. 404-6) and Tinker (17, pp. 217-18), we may be justified in regarding this *r* as being a somewhat too low indication of the true relationship existing between the two variables. Con-

sequently, it would seem safe to suggest that this r indicates that college freshmen of low achievement who understand well what they read orally tend also to understand well what they read silently.

It may be remarked, however, that this observation will be hardly surprising to those who work in the field of reading difficulties, and would seem to have little bearing upon the problem of whether or not difficulties in word attack during oral reading are indicative of similar difficulties in word attack during silent reading.

G. The Relationship of Time of Oral Reading to Time of Silent Reading

Time of Oral Reading is correlated significantly with speed of silent comprehension, the r being .45. It is not significantly correlated with level of silent comprehension. With Total Oral Errors, Time of Oral Reading is correlated .38, and with vocabulary, .25. The coefficient of .38 between Time of Oral Reading and Total Oral Errors may be compared to the r of .56 found by Swanson (15, p. 46). These findings would seem to indicate a degree of relationship between speed in silent reading and speed in oral reading. (However, any consideration of an application of this finding would involve, as well, the observation that Time of Oral Reading is not significantly correlated with Oral Comprehension.)

H. The Relationship of Total Oral Errors to the Language Tests

This error score, which formed the main oral measure of Gilmore's study of a general elementary school sampling, showed lower evidence of relationship at the college freshman level with students of low academic performance. For example, significant correlations were not found between this error and mental ability for the freshman group of this study. The correlation of Total Oral Errors with level of silent reading comprehension in this present study is .27, and between this error and vocabulary is .34. These two correlations are not significantly different in size.

These r's of .27 and .34 are somewhat lower than the r of .56 which Gilmore found between total oral errors and silent reading at the eighth grade. However, as has been seen from an examination of Gilmore's r's for these two variables from grades two through eight, there is a steadily decreasing trend in the size of the r's as the grade level advances. The hypothesis has been tested that the differences to be observed in the size of the correlations obtained by Gilmore represent chance differences from a true correlation of zero between correlation coefficients and grade level, and it has been observed that Gilmore's r's are significantly related to their grade levels. It seems reasonable, consequently, to infer that the lower r's found in this present investigation between Total Oral Errors and silent reading comprehension represent correlations of such a size as might be expected in the light of the decreasing size of the r's between total oral errors and silent reading comprehension as the grade level advances.

This observation leads to certain further considerations. The first of these is that since the shift from oral to silent reading is made in the second grade, it would not seem to be illogical to presume that habits of beginning silent reading will be largely those of oral reading. This would serve to account for the r of .92 found by Gilmore between the two variables at the second grade. It would further seem to indicate that diffi-

culties in silent reading might be studied advantageously through the medium of oral reading at these lower grade levels. However, the progressively lower correlations found between the two skills as grade level advances would suggest an increasing tendency on the part of each of the two reading skills to become independent of the other. As a consequence, one might expect that with advancing grade, oral reading would become progressively less valuable as a source of clues for the diagnosis of silent reading difficulties.

A further consideration which has its origins in the correlations observed between oral and silent comprehension on the one hand, and the correlations between oral error scores and language tests on the other, is that we may be justified in assuming from these correlations that to some extent those psychological processes which are involved in the understanding of what is read are common to both oral and silent reading. However, in view of the generally low or non-significant correlations between individual oral error scores and the test of language skills, it would not seem safe at the college freshman level to leap from an assumption of probable common psychological processes to the conclusion that peripheral difficulties in one medium are indicative of similar difficulties in the other.

I. Summary and Conclusions

The plan of this study has been to construct an oral reading test "such as Gray's Oral Reading Paragraphs" (15, p. 59) at the college level and to correlate performance on this examination with tests of the speed and level of silent comprehension, vocabulary, sentence structure, and intelligence with a group of eighty American International College freshmen in the lowest academic quarter of their class during the second semester ending in June, 1947. The study has been intended to secure further information about the "indispensability" of an oral reading test for the diagnosis of reading difficulties at this level.

The results obtained suggest the following conclusions:

1. That the evidence at hand casts strong doubts upon the value of extensive analyses of the possible diagnostic implications of specific types of individual reading errors.

2. That insofar as oral phrasing may be measured by changes of voice at the encountering of punctuation marks, this study reveals no evidence that oral phrasing is related to reading comprehension, either oral or silent.

3. That in view of the non-significant correlations between tests of knowledge of formal sentence structure and oral comprehension, the evidence from this study does not justify regarding knowledge of the formal structure of the English sentence as a factor in oral reading comprehension.

4. That in view of the low or non-significant correlations between both Mispronunciations and Total Oral Errors and the tests of level of silent reading comprehension and vocabulary among college freshmen of low academic achievement, one would not seem to be justified in advancing an oral reading test designed for college freshmen, cast in a form "such as Gray's Oral Reading Paragraphs," as being "indispensable to a thorough exploration of the student's reading abilities" (8, p. 238).

APPENDIX A

An Oral Reading Test for College Freshmen

(Same Cover for Both Forms A and B)

Name ..... Date .....

Date of Birth ..... Age .....
Yrs. Mos.

General Directions

This is a test to determine how well you can read orally and understand material of the kind which you will find in your textbooks. As nearly as you can judge will you read at the rate at which you would if you were asked to read aloud in class? As you read the passages, if you come to words with which you are unfamiliar, make an attempt to pronounce them without assistance and continue reading.

No questions will be answered while you are reading the passages nor while you are answering the check questions. Do you understand what we are going to do? . . . If you do, let us begin with the first paragraph.

Summary of Errors

Type of Error	Number	Type of Error	Number

Total Scores ....
Time Errors Comprehension

Form A

I

Excessively long study periods are to be avoided on account of the diminishing returns which result from fatigue. But few students over-exert themselves in matters of study, although many commence their daily program in a tired condition. Their fatigue may frequently be attributed to preoccupation with details and to conflicts arising from excessive indulgence in social activities, or from long hours spent in occupational endeavors. Odd moments and periods between classes should be utilized, but a workable plan makes provision for periods long enough for concentrated and sustained effort.

---

1. In the final analysis, excessively long study periods are to be avoided because of
   a. occupational endeavors
   b. lack of purpose
   c. diminishing returns
   d. tiredness
   e. shortened social activities
2. This writer claims that conflicts arise from
   a. diminishing returns
   b. lack of plan
   c. uncertainty
   d. excesses
   e. personal problems
3. This passage is an argument for
   a. non-indulgence in social activities
   b. planned study
   c. not studying too long
   d. guarding against fatigue
   e. not holding an outside job
4. The chief point discussed in the paragraph is
   a. the results of outside work
   b. the desirability of a workable plan of study
   c. the desirability of hard work in studies
   d. the result of social activities
   e. the result of fatigue

II

Right belief and credulity refer to habits of mind as well as to standards of evidence. "Thinking straight is essential to seeing straight. The evidence grows out of the attitude far more than the attitude results from the evidence." Some people are so entrenched in their own convictions that they resist the truth. It is easy for an anti-vivisectionist, for example, to discredit the values of animal dissection in the progress of medical research. Most people believe too much rather than too little. Credulity is rampant. Ours may be a scientific age, yet this era is the hey-day of the fortune tellers.

---

1. The writer believes that this is an age of
   a. over belief
   b. anti-vivisectionists
   c. medical research
   d. straight thinking
   e. right belief
2. Which of the following statements is not to be found in the passage?
   a. This may be a scientific age.
   b. People consult fortune tellers.
   c. Thinking straight is necessary for seeing straight.
   d. Most people believe too little.
   e. Anti-vivisectionists discredit animal research.
3. This writer is disturbed about people's mental habits.
   a. Yes
   b. No
   c. Passage does not say

III

We are today in the midst of those convulsions. Germany is divided and broken, slowly starving, a cancerous growth in the heart of Western Europe, a breeding place for the dark philosophy of Nietzche. There festers in her ruins the poison of fascism, the virus of communism. Either totalitarianism flourishes in decadence and destruction. In the Netherlands, the wealth of the Indies no longer builds stately mansions; scores of thousands of Dutch want to emigrate from broken Europe. Belgium is scarred by old wounds and ancient animosities, and France—still politically bankrupt and ethically and intellectually confused—lies weak and torn and divided.

---

1. The writer of this passage is best described as being
   a. optimistic
   b. dubious
   c. discouraged
   d. pessimistic
   e. excited
2. The author compares Germany to
   a. Nietzche
   b. a political bankrupt
   c. a progressive disease
   d. a stately mansion
   e. a ruin
3. In the ruinous prospect which faces Western Europe the author finds hope for
   a. France
   b. The Netherlands
   c. Belgium
   d. Germany
   e. no country

1. The physiocrats believed that economic forces are the result of
   a. agriculture
   b. leaving business alone
   c. natural laws
   d. theoretical beliefs
   e. governmental regulations
2. The physiocrats opposed
   a. Newton
   b. mercantilism
   c. laissez faire
   d. governments
   e. agriculture
3. The writer finds a parallel to the physiocrat's view of economics in
   a. astronomy
   b. agriculture
   c. physics
   d. biology
   e. mercantilism

IV

The first attack on mercantilism developed in France in the eighteenth century. Men known as physiocrats began to argue that governments would do well to leave business alone. Deducing their ideas from the Newtonian faith in natural law, they believed that there were natural laws in economics, which were as immutable as the natural laws of astronomy. Laissez faire (let things alone)—let nature run its course—and all will be well, these men proclaimed. The physiocrats were very theoretical in their beliefs, and living in an agricultural country, they considered agriculture to be the principle source of all wealth.

V

Given adequate training the scientist focuses his attention on some particular problem in his chosen field. He analyzes and studies the problem carefully. He determines the relationship to it of known facts and principles. While he may forecast in his mind a probable result of his work, he does not let his expectations prejudice his method, and he is never surprised if the expectations be not fulfilled. He analyzes the problem into constituent factors, subjects each to observation and to experiment, and records with painstaking accuracy each discovered aspect, phenomenon, or fact. To obviate the chance of error, he repeats.

---

1. Error in experimentation is obviated, according to this passage by
   a. forecasting results
   b. thorough training
   c. repetition
   d. analysis
   e. preliminary study
2. The purpose of this writer is to
   a. warn
   b. describe
   c. persuade
   d. admonish
   e. entertain

VI

Among the earliest cells to become differentiated in an elongating internode are those immediately beneath the epidermis. The cells enlarge somewhat, and later their protoplasts secrete a few additional layers of wall material. Such thickening of the walls results in the formation of a mechanical tissue of considerable rigidity. This tissue doubtless functions in support during the early stages of development. In an elongating internode, at some distance inward from the surface of the stem, strands of cells are differentiated that extend vertically, and parallel with one another through the internode. These strands, composed chiefly of elongated cells, will eventually mature into vascular bundles.

---

1. The process described in this passage is one of
   a. cell composition
   b. decay
   c. thickening
   d. function
   e. development
2. Mechanical tissue is formed by the thickening of the
   a. walls
   b. bundles
   c. meristematic cells
   d. strands
   e. internodes

VII

One wishes to avoid exaggeration, but it seems safe to say that there are times, and not infrequently, when the spirit of comedy makes life endurable. The tragedies of life, because they are serious, we can bear with fortitude, but they are for the most of us rare, and to some they never come. But the lesser bafflements, the grotesque inconsistencies, the irritating irrelevancies—these are the things that though individually they may be of no power to quell, in the aggregate are like sand in one's shoes, a sliver under the skin, a cinder in the eye. It is comic laughter that wipes the slate clean and refreshes the soul.

---

1. The writer discusses
   a. fortitude
   b. laughter
   c. inconsistencies
   d. comedy
   e. tragedy
2. Tragedy is
   a. a grotesque experience
   b. a baffling experience
   c. a cumulative experience
   d. a common experience
   e. an infrequent experience
3. The most irritating factors in human experience are to be found in
   a. lack of human fortitude
   b. major tragedies
   c. lesser inconsistencies
   d. grotesque bafflements
   e. minor annoyances
4. Using one or two words, tell what the writer recommends as a method for relieving irritation.

1. According to this passage the concern of many individuals today is with
   a. historical trends
   b. intellectual problems
   c. acute states of mind
   d. themselves
   e. politics
2. One indication that this concern is wide spread is the large sale of
   a. books on philosophy
   b. books on self-help
   c. the Bible
   d. books on current history
   e. books on economic theory
3. According to this passage, never before in the history of our nation have we been so concerned with the needs of others.
   a. Yes
   b. No
   c. Passage does not say

VIII

Probably at no other time in the world's history has the individual been so much occupied with himself as in the years through which we have recently been living. The mark of that self-absorption has been deep upon our literature. The state of mind which it represents has been especially acute among men and women of intellectual pretensions, but the malady has by no means been confined to them. If it had been there would have been nothing like the market which has existed during recent years for the books of self-help which have appeared in such profusion.

Form B

I

Some courses, because of either intrinsic difficulty or the length of the assigned readings, absorb so large a share of study time that the danger of slighting other subjects is great unless recreational activities are curtailed. A student lacking the skills necessary to satisfactory performance in a college course inevitably faces the need of expending a great amount of time in maintaining normal progress. Thus, inadequate training in mathematics prevents acceptable work in physics and chemistry, just as ignorance of the rudiments of grammar handicaps the writing of creditable compositions. By dint of hard work, fundamental skills can be acquired.

---

1. Accomplishment in one subject is seriously hampered according to the writer by
   a. outside work
   b. lack of related skills
   c. ignorance of physics
   d. too much recreation
   e. lack of normal progress
2. The passage is written for
   a. brilliant students
   b. conscientious students
   c. students carrying a heavy outside load
   d. slow students
   e. students weak in elementary skills
3. Lack of basic grammar handicaps, according to this writer
   a. correct speech
   b. work in physics
   c. good writing
   d. effective social relations
   e. accomplishment in chemistry

II

Most successes in prophecy are remembered, failures forgotten. The stock answer is that the stars are never wrong, but that astrologers may be, which is admittedly an argument to end all arguments. The richest field for the study of credulity lies in medical quackery whether it be a movie star who attributes her perfect teeth to some particular brand of toothpaste, or a distinguished foreign physician who recommends yeast for a specific ailment in such a way as to allow the advertiser to seduce the public into believing that a cure for infections must be a medicine for all ills.

---

1. According to this paragraph a good field for the study of quackery is to be found in
   a. the movies
   b. prophesy
   c. public debate
   d. astrology
   e. advertising
2. The passage is an argument for
   a. the taking of yeast
   b. less advertising
   c. less will to believe
   d. more will to believe
   e. not visiting astrologers.
3. The words "distinguished foreign" refer to
   a. physicians
   b. people in general
   c. medicines
   d. infections
   e. astrologers

III

The story tells how Enmerkar, employing a "modern" diplomatic approach, sent an "ambassador" to the Lord of Aratta and suggested surrender. The latter, the epic continued, said he was the protege of Inanna, the great Sumerian goddess of love and war, and thus diplomatically scorned the proposal. Enmerkar then unleashed an ingenious psychological "war of nerves" by sending threats to the Lord of Aratta and his people. He entwined the threats with favors such as supplies of food for the people. The basic characteristics of man's society have remained relatively unchanged since three thousand years before the days of Christ, Julius Caesar, or the Roman Empire.

---

1. According to this passage a war of nerves is
   a. a means devised by the Romans
   b. to be found in the time of Christ
   c. a method originated by Enmerkar
   d. a very ancient practice
   e. technique developed by Hitler
2. The purpose of the writer is to
   a. show historical continuity
   b. warn
   c. tell a story
   d. amuse us
   e. add knowledge
3. The "Lord of Aratta" was
   a. not named
   b. a Sumerian goddess
   c. Enmerkar
   d. Inanna
   e. an ambassodar
4. We are told that a war of nerves consists of
   a. sending ambassadors
   b. supplies of food
   c. making alliances
   d. psychological warfare
   e. combined threats and favors
5. The writer develops the conclusion drawn in the last sentence through offering
   a. the answers to certain questions
   b. the effect of certain causes
   c. concepts
   d. examples
   e. arguments

IV

Economic thought in the eighteenth century was both stimulated and transformed by the new wealth. The prevailing economic doctrines at the beginning of that era were those of the mercantilist school, which upheld the omnipotence of the state and the subordination of the individual to it. Ever since the advent of the Tudors, in economics as in politics, the movement was away from the small unit, the guild and the town, and toward intensified competition along national lines. The prosperity of a country was thought to depend upon governmental regulation of trade and industry. Wealth was thought of in terms of actual gold and silver.

---

1. According to this passage one would be correct if he argued that
   a. political philosophy is constant
   b. trade and industry have always been free
   c. there was no shift from small units
   d. governmental regulation is not an innovation
   e. economic thought is not subjected to the influence of events
2. A word not used in the paragraph is
   a. regulation
   b. subordination
   c. omnipotence
   d. democracy
   e. intensified

V

In his search for facts and principles, it is the aim of the scientist to proceed in a purposeful, orderly, and logical manner. He must first be adequately prepared to proceed. The modern chemist, physicist, or biologist must serve an arduous apprenticeship in his particular branch of science. So early is this specialization begun that too often no broad basis is laid and no really adequate foundation is afforded for a lifetime of effective citizenship or even of scientific research. Many a biologist, for example, has been balked of high attainment through inadequate training in chemistry or in physics.

---

1. This writer states that the sciences are
   a. purposeful
   b. logical
   c. interrelated
   d. inadequate
   e. orderly
2. Faults are found by the writer in the demands of
   a. research
   b. arduousness
   c. specialization
   d. logic
   e. chemistry
3. The reader may infer from the passage that sometimes scientific training
   a. builds effective citizens
   b. teaches respect for facts
   c. defeats its own ends
   d. leads to research
   e. teaches orderly procedure

VI

Some readily observable evidences of growth are increase in the size and number of organs. A gardener thinking in terms of some particular crop, measures growth chiefly by the development of the particular part or parts of the plant yielding the products in which he is interested. A forester measures growth primarily in respect to the height and diameter of his trees. A student of botany may be concerned with the grosser evidences and measurements of growth; but for a broad grasp of the growth concept it is essential also to consider the variety of growth phenomena, the manner in which growth proceeds, the detailed mechanism of growth processes, the environmental factors.

---

1. Which of the following is not mentioned in the passage?
   a. gardeners
   b. organs
   c. students
   d. biologists
   e. foresters
2. The theme of the passage is developed by
   a. scientific analysis
   b. comparison
   c. showing cause and effect
   d. deduction
   e. elimination
3. A gardener is interested chiefly in
   a. measures
   b. phenomena
   c. environmental factors
   d. products
   e. mechanisms

VII

Greatness in prose will always be on a lower level than greatness in poetry. We have seen that what poetry can achieve by the magic of emotive language, imagery, rhythm, and the other devices of communication, prose must attain by the more pedestrian means of cumulative detail, and by exposition, example, illustration, and the other devices of rhetoric and logic. Prose can never hope to speak so intimately to the imagination of the reader, though in its more impassioned passages it may break over into the domain of poetry. Yet, in its secret of greatness, prose is never essentially different from poetry.

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1. According to this paragraph
   a. prose is essentially different from poetry
   b. prose does not have as much appeal as poetry
   c. prose has as much appeal as poetry
   d. prose has a greater appeal than poetry
   e. no comparison can be made between prose and poetry
2. According to this passage great poetry is essentially different from great prose.
   a. Yes
   b. No
   c. Passage does not say

VIII

To what purpose, April, do you return again?
Beauty is not enough
You can no longer quiet me with the redness
Of little leaves opening stickily.
I know what I know.
The sun is hot on my neck as I observe
The spikes of the crocus.
The smell of the earth is good.
It is apparent that there is no death.
But what does that signify?
Life in itself is nothing
An empty cup, a flight of uncarpeted stairs.
It is not enough that yearly, down this hill,
April
Comes like an idiot, babbling, and strewing flowers.

---

1. The writer is best characterized as being
   a. sorrowful
   b. disillusioned
   c. angry
   d. optimistic
   e. doubting
2. The season attempts to quiet the writer with its
   a. opening leaves
   b. redness
   c. sunshine
   d. babbling
   e. beauty
3. The month is compared to
   a. an idiot
   b. an empty cup
   c. the earth smell
   d. crocus spikes
   e. uncarpeted stairs
4. The line "it is apparent that there is no death" refers most exactly to
   a. the warm sun
   b. the growing flowers
   c. life's emptiness
   d. the red leaves
   e. the recurrent seasons
5. The theme of the poem is that the writer does not intend to allow the month to make her feel that life is enjoyable.
   a. Yes
   b. No
   c. Passage does not say

APPENDIX B

Acknowledgements to Publishers

The reading passages of the Freshman Oral Reading Test were adapted from the following sources with the permission of the publishers cited therewith.

1. Passage I, Form A and Passage I, Form B, were adapted from Charles Bird's *Effective study Habits* published by D. Appleton Century Company, New York.

2. Passage II, Form A, and Passage II, Form B, were adapted from Wayland Vaughan's *General Psychology* published by the Odyssey Press, New York.

3. Passage III, Form A, and Passage III, Form B, were adapted from the *New York Times* for March 2, 1947. Passage VIII, Form A, was adapted from the *New York Times* for March 30, 1947. These adaptations were made with the permission of the managing editor and with the permission of the editor of the *New York Times Book Review*.

4. Passage IV, Form A, and Passage IV, Form B, were adapted from *A History of England and the British Empire* by W. P. Hall, R. G. Albion, and J. B. Pope. Ginn and Company, New York, are the publishers.

5. Passage V, Form A, and Passage V, Form B, were adapted from E. E. Stanford's *Man and the Living World* published by the Macmillan Company, New York.

6. Passage VI, Form A, and Passage VI, Form B, were adapted from *A Textbook of General Botany* by G. M. Smith, R. E. Evans, B. M. Duggar, G. L. Bryan, and C. E. Allen. The Macmillan Company, New York, are the publishers.

7. Passage VII, Form A, and Passage VII, and VIII, Form B, were adapted from Philo M. Buck's *Literary Criticism, A Study of Values in Literature* published by Harper and Brothers, New York.

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